3.2.12 Lower Occoquan Group Summary

3.2.12.1 Mill Branch Watershed

Description. Mill Branch Watershed is a medium-sized watershed, with approximately 14 miles of stream assessed. It is located along the middle of the southern boundary of the County. The watershed is entirely contained within the County Boundaries, and drains to the Occoquan River, and eventually discharges to the Potomac River.

Habitat. The habitat assessment results for Mill Branch Watershed are summarized by stream in Table 3-59. Habitat scores for each reach are depicted in Figure 3-80. Based on a length weighted habitat score of 106 (Table 3-2), Mill Branch Watershed is in the middle range of quality, compared to the rest of the County. Approximately 0.5 mile of stream was categorized as having "very poor" habitat conditions, 6 miles as "poor," 4 miles as "fair," and 4 miles as "good."

CEM. Based on the CEM evaluations approximately three quarters of the channels assessed in Mill Branch Watershed are in Evolutionary Stage 3 (Table 3-3), with the remainder of the watershed in Stage 2. Figure 3-81 summarizes the CEM results for Mill Branch Watershed.

Infrastructure. The infrastructure inventory resulted in 98 inventory points. The most significant problems were related to a utility line, which was given an impact score of 20, and a head cut which was given a score of 10. The infrastructure inventory results are summarized in Table 3-60. Figures 3-82, 3-83, 3-84, 3-85, and 3-86 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

3.2.12.2 Kane Creek Watershed

Description. Kane Creek Watershed is a small watershed, with approximately 7 miles of stream assessed. It is located at the southern most end of the County. The watershed is entirely contained within the County Boundaries, and drains to Belmont Bay, and the Potomac River.

Habitat. The habitat assessment results for Kane Creek Watershed are summarized by stream in Table 3-61. Habitat scores for each reach are depicted in Figure 3-80. Based on a length weighted habitat score of 128 (Table 3-2), Kane Creek Watershed is in the upper range of quality, compared to the rest of the County. Approximately 4.5 miles of stream were categorized as having "fair" habitat conditions, 2 miles as "good," and 1 mile as "excellent."

CEM. Based on the CEM evaluations approximately two thirds of the channels assessed in Kane Creek Watershed are in Evolutionary Stage 2 (Table 3-3), with the remainder of the watershed in Stage 3. Figure 3-81 summarizes the CEM results for Kane Creek Watershed.

Infrastructure. The infrastructure inventory resulted in 13 inventory points. The most significant problem was related to a crossing, which was given an impact score of 5. The infrastructure inventory results are summarized in Table 3-62. Figures 3-82, 3-83, 3-84, 3-85, and 3-86 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

3.2.12.3 High Point Watershed

Description. High Point Watershed is a small watershed, with approximately 3 miles of stream assessed. It is located at the southern most end of the County. The watershed is entirely contained within the County Boundaries, primarily draining the Mason Neck State Park and National Wildlife Refuge. The channels in the watershed consist of several small tributaries, which each drain directly to the Potomac River.

Habitat. The habitat assessment results for High Point Watershed are summarized by stream in Table 3-63. Habitat scores for each reach are depicted in Figure 3-80. Based on a length weighted habitat score of 124 (Table 3-2), High Point Watershed is in the upper range of quality, compared to the rest of the County. Approximately 1.5 miles of stream were categorized as having "fair" habitat conditions, and 1.5 miles as "good."

CEM. Based on the CEM evaluations all of the channels assessed in High Point Watershed are in Evolutionary Stage 2 (Table 3-3). Figure 3-81 summarizes the CEM results for High Point Watershed.

Infrastructure. The infrastructure inventory resulted in 6 inventory points. The most significant problems were related to two deficient buffers, which were given impact scores of 5. The infrastructure inventory results are summarized in Table 3-64. Figures 3-82, 3-83, 3-84, 3-85, and 3-86 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

TABLE 3-59
Habitat Assessment Summary for Mill Branch Watershed
Fairfax County Stream Physical Assessment

	Linear Feet (Percent) of Stream					
Stream	**Very Poor**	**Poor**	**Fair**	**Good**	**Excellent**	**Total**
Giles Run	2,507 (5.19)	24,125 (49.93)	10,115 (20.93)	11,569 (23.95)	0 (0.00)	48,316
Mills Branch	0 (0.00)	2,003 (40.31)	2,966 (59.69)	0 (0.00)	0 (0.00)	4,970
South Branch	0 (0.00)	0 (0.00)	5,641 (88.10)	762 (11.90)	0 (0.00)	6,403
Tributary to Occoquan River	0 (0.00)	4,951 (31.76)	2,655 (17.03)	7,982 (51.21)	0 (0.00)	15,588
Watershed Total	**2,507 (3.33)**	**31,079 (41.29)**	**21,377 (28.40)**	**20,313 (26.98)**	**0 (0.00)**	**75,276**

TABLE 3-60
Infrastructure Assessment Summary for Mill Branch Watershed
Fairfax County Stream Physical Assessment

Impact Score	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**>10**	**Total**
Deficient Buffers	0	0	9	4	13	7	3	0	1	0	0	N/A	37
Crossings	34	0	1	0	0	0	0	1	0	0	0	N/A	36
Ditches and Pipes	14	1	0	0	0	0	0	0	0	0	0	N/A	15
Erosion	0	0	0	0	0	0	1	0	0	0	0	N/A	1
Head Cut	0	0	1	0	2	0	0	0	0	0	1	N/A	4
Obstruction	0	1	1	1	0	0	0	0	0	0	0	N/A	3
Utility	1	0	0	0	0	0	0	0	0	0	0	0	2
Total	**49**	**2**	**12**	**5**	**15**	**7**	**4**	**1**	**1**	**0**	**1**	**0**	**98**

TABLE 3-61
Habitat Assessment Summary for Kane Creek Watershed
Fairfax County Stream Physical Assessment

	Linear Feet (Percent) of Stream					
Stream	**Very Poor**	**Poor**	**Fair**	**Good**	**Excellent**	**Total**
Kane Creek	0 (0.00)	0 (0.00)	6,286 (31.79)	9,211 (46.59)	4,275 (21.62)	19,772
Thompson Creek	0 (0.00)	0 (0.00)	15,493 (100.00	0 (0.00)	0 (0.00)	15,493
Tributary to Potomac River	0 (0.00)	0 (0.00)	0 (0.00)	1,300 (100.00	0 (0.00)	1,300
Tributary to Thompson Creek	0 (0.00)	0 (0.00)	1,970 (100.00	0 (0.00)	0 (0.00)	1,970
Watershed Total	**0 (0.00)**	**0 (0.00)**	**23,749 (61.63)**	**10,511 (27.28)**	**4,275 (11.09)**	**38,535**

TABLE 3-62
Infrastructure Assessment Summary for Kane Creek Watershed
Fairfax County Stream Physical Assessment

Impact Score	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**>10**	**Total**
Deficient Buffers	0	0	0	1	0	1	0	0	0	0	0	N/A	2
Crossings	9	0	0	0	0	0	0	1	0	0	0	N/A	10
Ditches and Pipes	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Erosion	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Head Cut	0	0	0	1	0	0	0	0	0	0	0	N/A	1
Obstruction	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Utility	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**9**	**0**	**0**	**2**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**13**

TABLE 3-63
Habitat Assessment Summary for High Point Watershed
Fairfax County Stream Physical Assessment

	Linear Feet (Percent) of Stream					
Stream	**Very Poor**	**Poor**	**Fair**	**Good**	**Excellent**	**Total**
Tributary to Potomac River	0 (0.00)	0 (0.00)	7,787 (49.11)	8,069 (50.89)	0 (0.00)	15,856
Watershed Total	**0 (0.00)**	**0 (0.00)**	**7,787 (49.11)**	**8,069 (50.89)**	**0 (0.00)**	**15,856**

TABLE 3-64
Infrastructure Assessment Summary for High Point Watershed
Fairfax County Stream Physical Assessment

Impact Score	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**>10**	**Total**
Deficient Buffers	0	0	0	0	0	2	0	0	0	0	0	N/A	2
Crossings	3	0	0	1	0	0	0	0	0	0	0	N/A	4
Ditches and Pipes	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Erosion	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Head Cut	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Obstruction	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Utility	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**3**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**6**

MILL BRANCH

KANE CREEK

HIGH POINT

Fairfax County Boundary

Habitat Rating

Excellent

Good

Fair

Poor

Very Poor

No Habitat Assessment

Lakes and Ponds

Watersheds

N

WATERSHED GROUP: LOWER OCCOQUAN

0 2000 4000 6000 8000 Feet

Figure 3-80
Habitat Assessment
Lower Occoquan Group
Fairfax County Stream Physical Assessment

CH2MHILL

MILL BRANCH

KANE CREEK

HIGH POINT

Inventory Types
- Cross Section
- Head Cut

CEM Stage
- Not Assigned
- 1
- 2
- 3
- 4
- 5
- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

N

WATERSHED GROUP: LOWER OCCOQUAN

0 2000 4000 6000 8000 Feet

Figure 3-81
CEM Stages
Lower Occoquan Group
Fairfax County Stream Physical Assessment

CH2MHILL

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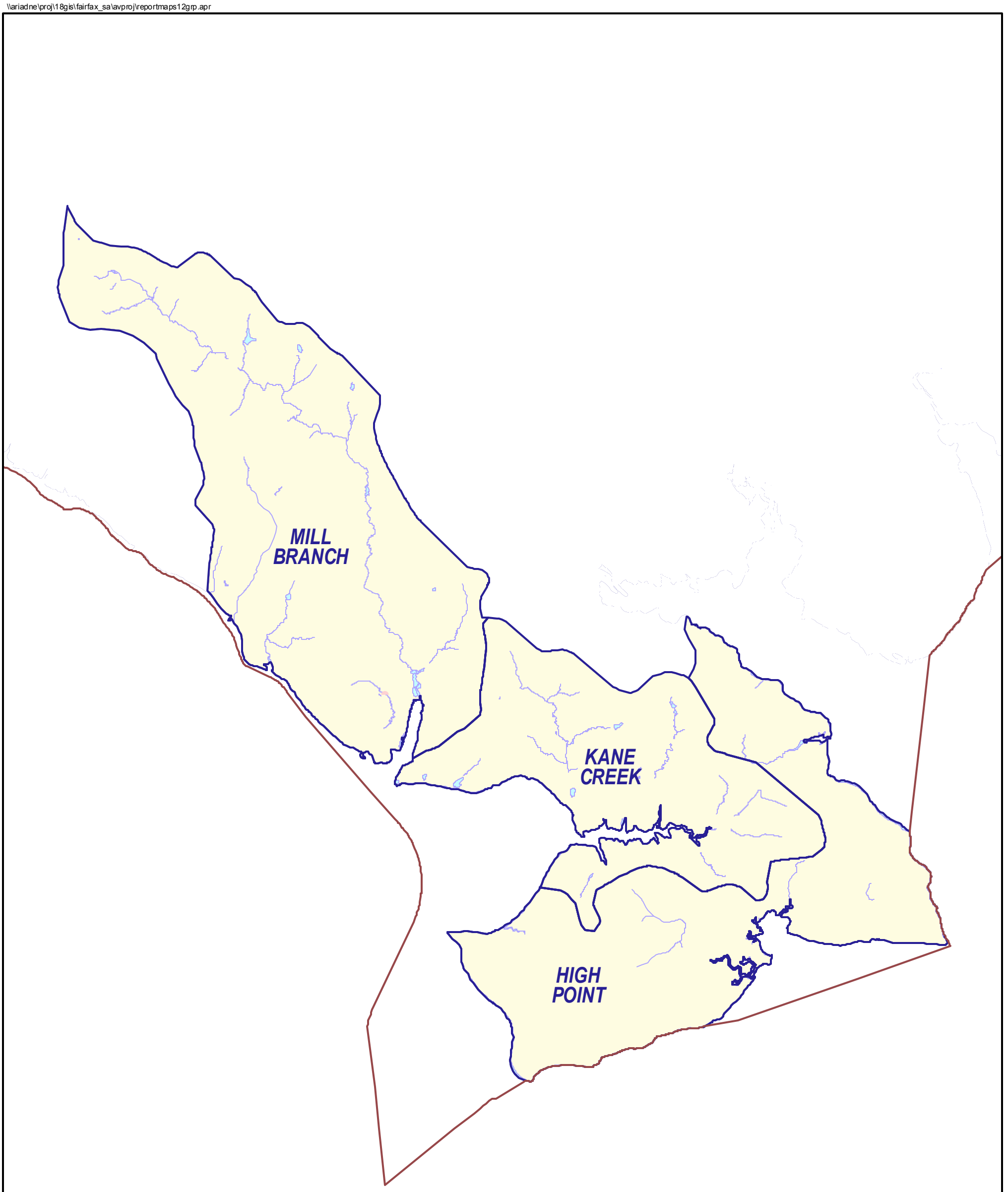

Erosion by Impact Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Fairfax County Boundary
Lakes and Ponds
Streams
Watersheds

N

**WATERSHED GROUP:
LOWER OCCOQUAN**

0 2000 4000 6000 8000 Feet

Figure 3-82
Erosion Impacts
Lower Occoquan Group
Fairfax County Stream Physical Assessment

CH2MHILL

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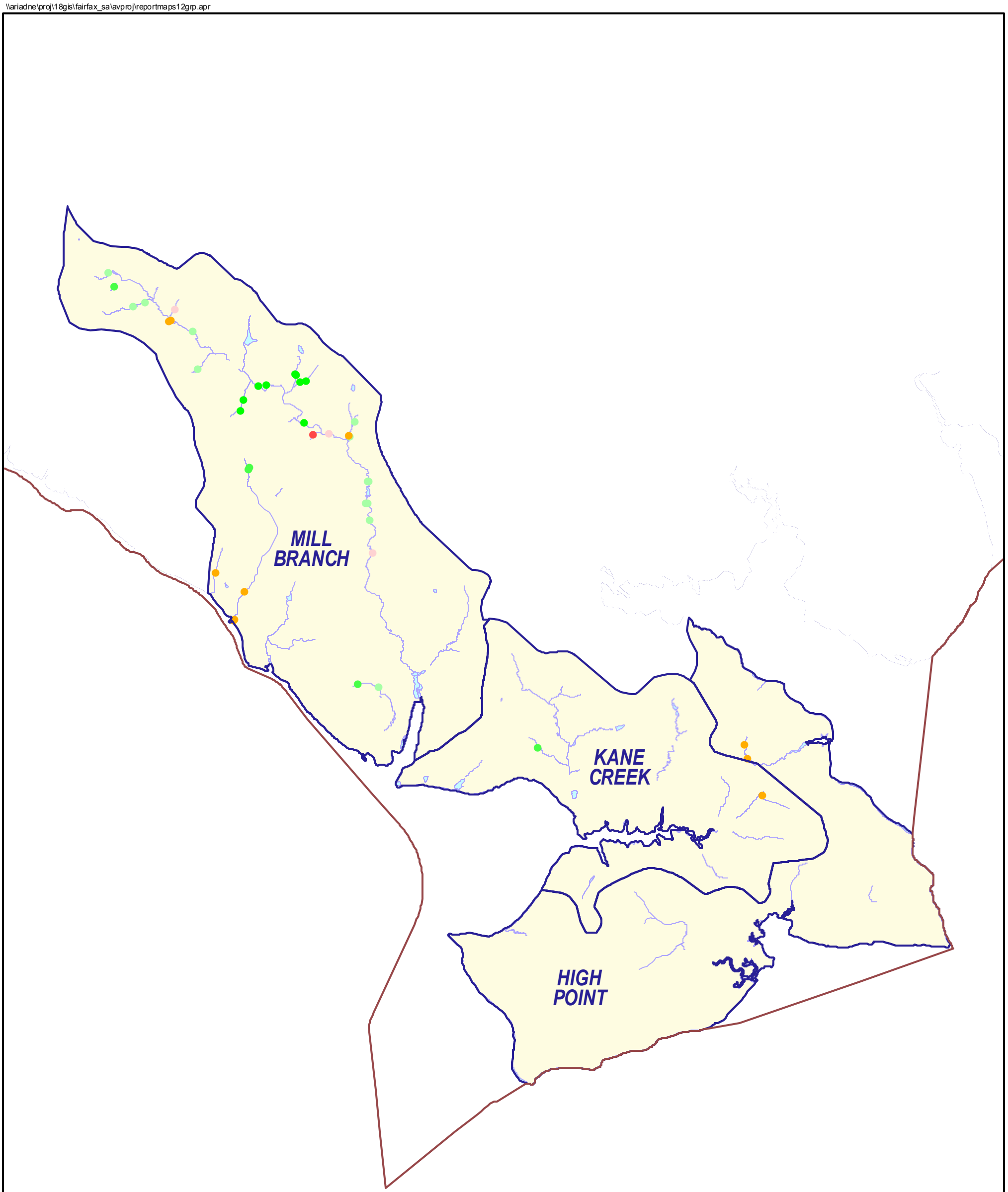

Deficient Buffer by Impact Score

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Fairfax County Boundary
Lakes and Ponds
Streams
Watersheds

N

WATERSHED GROUP:
LOWER OCCOQUAN

0 2000 4000 6000 8000 Feet

Figure 3-83
Deficient Buffer Impacts
Lower Occoquan Group
Fairfax County Stream Physical Assessment

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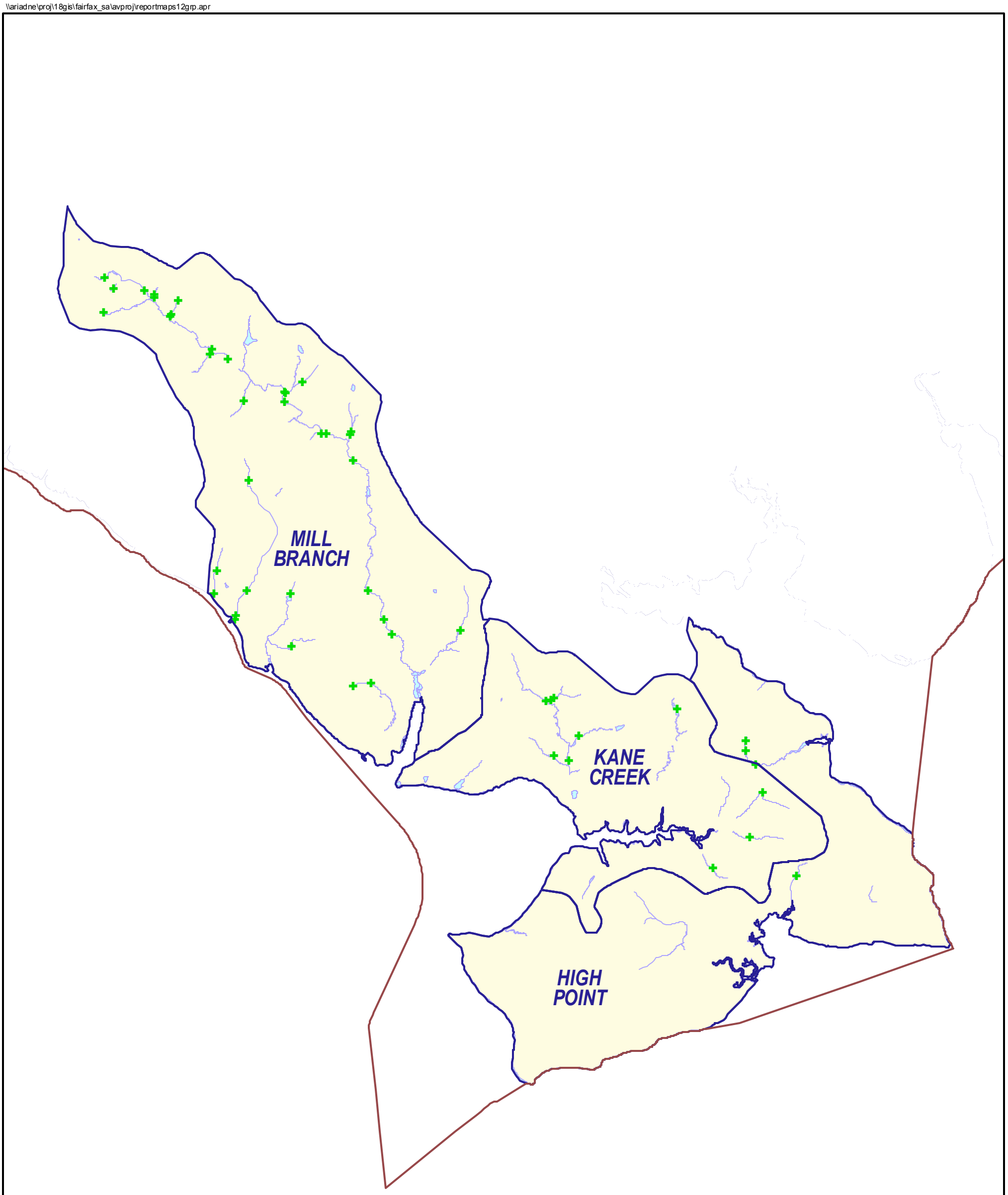

Inventory Type
+ Crossing

Fairfax County Boundary
Lakes and Ponds
Streams
Watersheds

N

WATERSHED GROUP:
LOWER OCCOQUAN

0 2000 4000 6000 8000 Feet

Figure 3-84
Crossings
Lower Occoquan Group
Fairfax County Stream Physical Assessment

CH2MHILL

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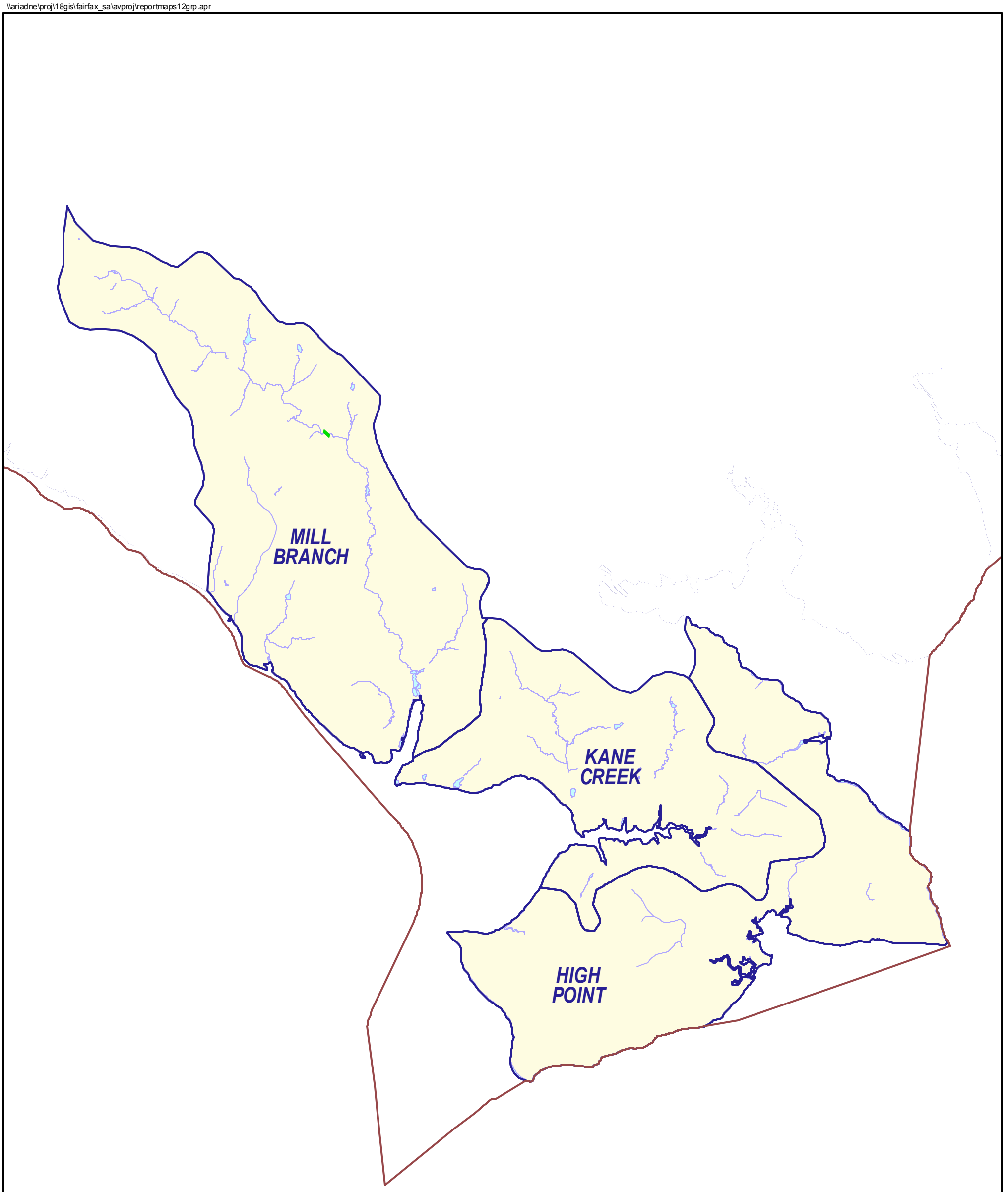

Pipe / Ditch by Impact Score

1
2
3
4
5
6
7
8
9
10

Fairfax County Boundary
Lakes and Ponds
Streams
Watersheds

N

WATERSHED GROUP:
LOWER OCCOQUAN

0 2000 4000 6000 8000 Feet

Figure 3-85
Pipe and Ditch Impacts
Lower Occoquan Group
Fairfax County Stream Physical Assessment

CH2MHILL

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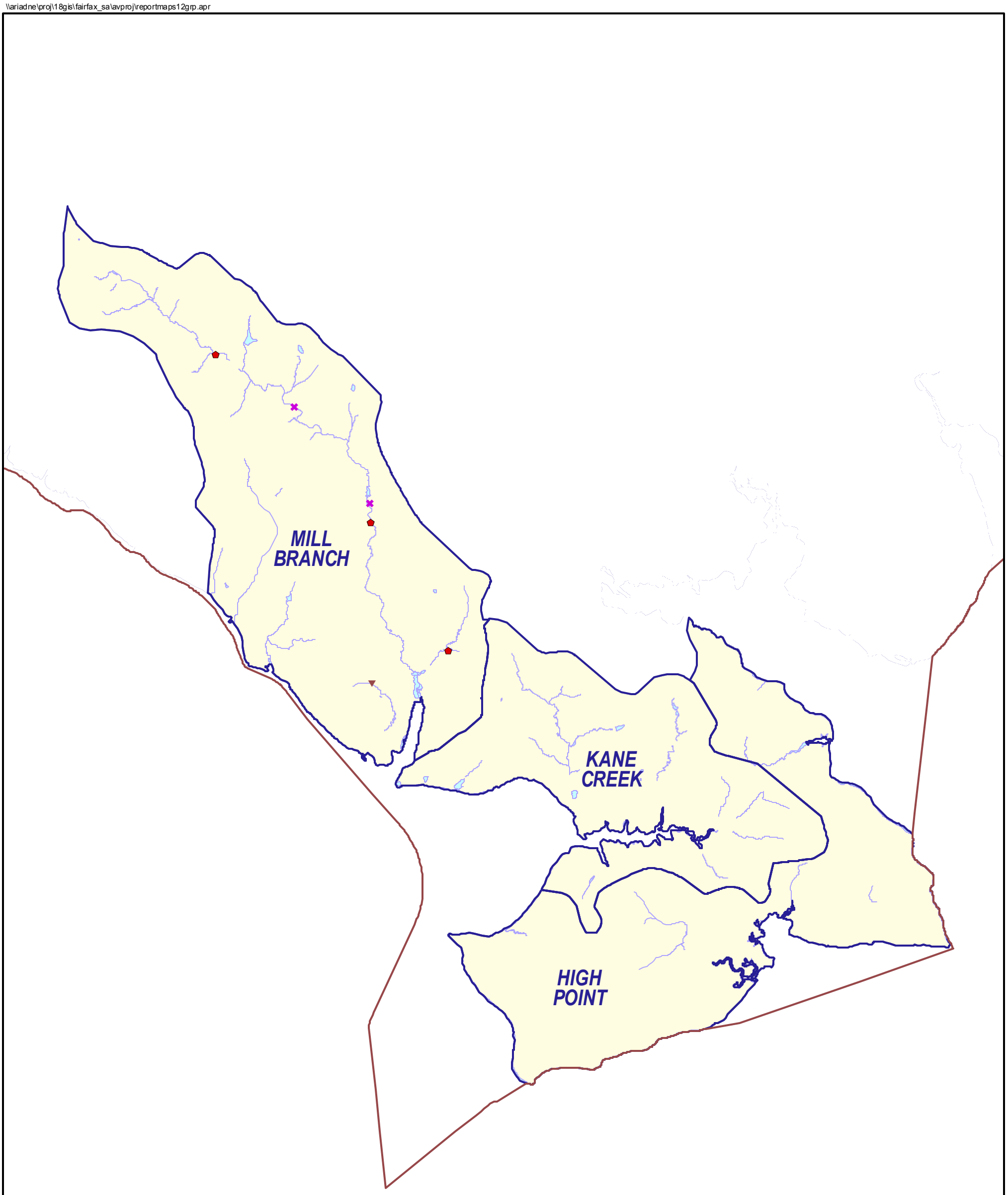

Inventory Types
- Dump
- Obstruction
- Utility

Fairfax County Boundary
Lakes and Ponds
Streams
Watersheds

WATERSHED GROUP:
LOWER OCCOQUAN

N

0 2000 4000 6000 8000 Feet

Figure 3-86
Dumps, Obstructions, and Utilities
Lower Occoquan Group
Fairfax County Stream Physical Assessment

CH2MHILL